UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAR 2 6 2019

OFFICE OF
AIR AND RADIATION

Mr. Todd Shrader, Manager
Carlsbad Field Office
U. S. Department of Energy
P.O. Box 3090
Carlsbad, New Mexico 88221

Subject: Heater Tests Conducted in the Waste Isolation Pilot Plant Underground without Appropriate Notification to the EPA.

Dear Mr. Shrader:

Recently, the EPA has informally heard that the U.S. Department of Energy (DOE) through its scientific advisor, Sandia National Laboratories (SNL) apparently conducted some form of "heater tests" in the Waste Isolation Pilot Plant (WIPP) underground without adhering to the previously expressed understanding that the DOE was to submit a final design before conducting any such tests.

In August 2011, the DOE submitted to the EPA a planned change notice for the WIPP concerning a Salt Disposal Investigations (SDI) project, the stated purpose of which was to investigate thermal and hydro-geochemical responses of temperature sources in excess of 160° C located in bedded salt. The DOE's 2011 planned change notice indicated that the project in the WIPP underground had two phases. In the initial preparatory phase, the DOE proposed mining new access drifts and identified the location of the planned tests, and the later second phase—which would not occur for several years—would consist of tests involving heaters to simulate the effects of hot waste on salt. With respect to the second phase, the DOE's August 2011 notice included only a general conceptual analysis.

In a letter dated November 17, 2011, the EPA indicated that it had no objection to the initial preparatory phase of the project. However, the EPA expressly reserved judgment concerning the second phase of the project, noting that the EPA lacked sufficient information to fully assess that aspect of the proposed change: "The Agency understands that the DOE will be developing a final design for the heater tests at a future date. The EPA will provide a decision on the heater tests once we receive and review the final heater test design."

To date, the EPA has not received the final heater test design or other additional information relating to the second phase of the activities noted in the DOE's August 2011 planned change notice. It appears that the DOE did, in fact, conduct some heater tests, perhaps as much as two years ago without providing the expected information. The EPA's November 17, 2011 response to the SDI project specifically noted that the Agency was reserving a full evaluation of phase two until the DOE provided additional information. It appears that the DOE did not appropriately comply with the planned change notice process.

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Accordingly, the EPA requests that the DOE immediately confirm, in writing, whether the DOE has proceeded with the second phase of the SDI project that was the subject of the DOE's August 2011 notice and, if so, describe, in writing, the date(s) and nature of the heater tests. If such tests are on-going or anticipated in the future, the EPA requests that the DOE cease any further testing until the EPA has fully evaluated that aspect of the planned change. Even though it may be—in whole or part—after the fact, the EPA also requests that the DOE provide adequate heater test design information, such as requested in the EPA's November 2011 letter. Upon receipt of that response and additional information, the EPA will fulfill its responsibility to evaluate the planned change, including phase two of the project.

For many years, the DOE and the EPA have maintained a positive, collaborative inter-agency approach to addressing WIPP-related issues. The EPA values the discipline that the planned change notice process provides to the Agency's oversight role and deviating from that established process is detrimental to the EPA's ability to assess the long-term performance of WIPP.

We look forward to resolving these issues quickly. If you have questions, please contact me or Tom Peake at 202-343-9765.

Sincerely,

Lee Ann B. Veal

Lee Ann B. Veal
Director
Radiation Protection Division

Enclosure

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OFFICE OF
AIR AND RADIATION

Mr. Ed Ziemianski
Carlsbad Field Office
U.S. Department of Energy
P.O. Box 3090
Carlsbad, NM 88221-3090

Dear Mr. Ziemianski,

I am writing in response to your August 11, 2011 Planned Change Notice to the U.S. Environmental Protection Agency. This notice states that the U.S. Department of Energy (DOE) will be initiating mining activities for the Salt Disposal Investigations (SDI) project. The DOE has stated the objective of the SDI experiment is to investigate thermal and hydro-geochemical responses of temperature sources points in excess of 160° C located in bedded salt.

The project consists of two phases. The initial preparatory phase consists of mining new access drifts and the location of the planned tests. This will take more than a year to complete. The second phase is planned to consist of tests involving heaters to simulate the effects of hot waste on salt. These tests are similar to previous lower temperature tests that were conducted at the Waste Isolation Pilot Plant (WIPP) prior to waste emplacement. The actual tests will not commence for a least several years.

After reviewing the DOE's proposal – including Section 3.5.3 of "Management Proposal for Salt Disposal Investigations Proposal With a Field Scale Heater Test At WIPP" (June 2011, DOE/CBFO-11-3470 Revision 0) – and responses to the Agency's questions related to the effects of increasing the mined area, the EPA has no objection to the Department conducting the initial preparatory phase of the SDI program. The EPA's review of the SDI proposal finds the mining phase of the SDI activities will not adversely impact WIPP's waste handling activities, air monitoring, disposal operations, or long-term repository performance. If the DOE changes the proposed SDI experimental drift or alcove configuration a written notification needs to be submitted to the EPA.

The Department's initial SDI proposal included a conceptual heater test analysis which indicated that there will be no adverse affect to the repository as a result of the planned tests. The Agency understands that the DOE will be developing a final design for the heater tests at a future date. The EPA will provide a decision on the heater tests once we receive and review the final heater test design.

Sincerely,

Jonathan Edwards
Director, Radiation Protection Division

cc: Frank Marcinowski, DOE/HQ
Christine Gelles, DOE/HQ
Alton Harris, DOE/HQ
Russ Patterson, DOE/CBFO
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